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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/640,063	08/17/2000	John Stanko	050-96-017C1/D1(2158.4700	5049

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EXAMINER

ELDRED, JOHN W

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/640,063	Applicant(s) STANKO ET AL.	
	Examiner J. Woodrow Eldred	Art Unit 3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 183-186, 188-209, 223-226, 228-254, 258, 261, 262, 265-278, 281, 283-285 and 287 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 183-186,188-209,223-226,228-254,258,261,262,265-278,281,283-285 and 287.

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 183, 190, 191, 192, 197-201, 206-209, 223, 228-232, 237-241, 246-250, 261, 266, 270, 271, and 287 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (5,244,168) in view of Shaw et al (5,318,254).

Williams disclose an apparatus for deicing an aircraft comprising substantially all claimed elements including a vehicle, a boom (56) pivotally mounted on the vehicle, an operator cab 58 on the free end of the boom, an air compressor and heater (note in column 5, line 51 – column 6, line 4 that APU 28 provides heated and “compressed air”), a converging air nozzle (26) on the free end of the boom, ducts for moving the heated compressed air from the compressor to the air nozzle, and a vehicle roof which is located below the connection point of the boom to the vehicle. Williams also teach that it is known to mount a fluid nozzle, element 42 in Figure 2, on the air nozzle and to provide the associated fluid source, pump, and tubing; see elements 40, 36, and the teaching in column 7, line 4 that a pump can be provided. Williams fail to disclose the compressor as located “at the base of the boom”. Shaw et al teach that it is known to provide, on a vehicle, a deicing fluid pump located at the base of a nozzle carrying boom. See Figure 7, elements 114 and 134. Shaw also discloses that the pump is in an enclosure that is connected to the boom. See Figure Figures 2 and 7, and element 28. The pump for the deicing fluid is analogous to the compressor for deicing compressed air. Motivation to combine is the well known improvement in efficiency of having the source of a fluid as near as possible to the area of use, in order to avoid friction losses. To employ the teachings of Shaw et al on the deicing apparatus of Peppard and have the compressor located at the base of the boom is considered to have been obvious to one having ordinary

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skill in the art. The placement of the compressor “at the base of the boom” in view of the Shaw et al teaching thus inherently causes the compressor to be disposed above the roof of the vehicle. Williams also fails to specify the operating pressure of the compressed air, but does mention the relatively high speeds of 100-200 mph for the airflow. Without any indication of unexpected results, to employ the particularly claimed pressures does not appear to provide unobvious or patentable results, since it is normal engineering practice to choose the particular pressures to perform a particular task. It appears obvious, and consistent with both the high speed disclosed by Williams and the same function being performed by Williams and the present invention, for one of ordinary skill in the art to employ the particular claimed pressures.

3. Claims 184, 185, 193-196, 202-204, 224, 225, 233-236, 242-244, 251, 252, 254, 258, 262, 265, 267-269, 272-278, 281, and 283-285 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (5,244,168) in view of Shaw et al as applied to claims 183, 190, 191, 192, 197-201, 206-209, 223, 228-232, 237-241, 246-250, 261, 266, 270, 271, and 287 above, and further in view of Warnock (4,423,980).

Williams fails to disclose a hydraulic motor driving the compressor, a hydraulic pump driving the hydraulic motor, hydraulic fluid lines connecting the pump and the motor, and a vehicle engine driving the hydraulic pump. Warnock discloses an analogous vehicle 10 with an articulated element (i.e. a dump box 14 analogous to a boom) which has an air wand 104 mounted on the articulated element which discharges air from an air compressor 88, which is driven by a hydraulic motor 28, a hydraulic motor 28 which drives the hydraulic motor, a fluid supply line 85 connecting the hydraulic motor and pump, and a vehicle motor 19 which has a power take-off unit 20 to drive the hydraulic pump. Motivation to combine is the mere substitution of known means for driving the compressor, with the attendant advantages of hydraulic power. To employ the teachings of Warnock and Shaw et al on the deicing apparatus of Williams and have the claimed hydraulic power system to drive the compressor is considered to have been obvious to one having ordinary skill in the art.

4. Claims 186, 205, 226, and 245 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (5,244,168) in view of Shaw et al and Warnock as applied to claims 184, 185, 193-196, 202-204, 224, 225, 233-236, 242-244, 251, 252, 254, 258, 262, 265, 267-269, 272-278, 281, and 283-285, and further in view of Gebhardt (4,488,447).

Williams, Shaw et al, and Warnock fail to disclose a gear drive between the compressor and the hydraulic motor for stepping up the revolutions per minute of the compressor relative to the output of the hydraulic motor. Gebhardt teach that it is well known to use a gear drive to step up the revolutions of a compressor relative to a driving motor. See especially claim 1. Motivation to combine is the teaching in column 1, lines 27-31, that step-up (or down) gearing is used to fully utilize the delivery capability of a machine. To employ the teachings of Gebhardt on the compressor and hydraulic motor of Williams and Warnock and have step-up gearing is considered to have been obvious to one having ordinary skill in the art.

5. Claim 253 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (5,244,168 in view of Shaw et al and Warnock as applied to claims 184, 185, 193-196, 202-204, 224, 225, 233-236, 242-244, 251, 252, 254, 258, 262, 265, 267-269, 272-278, 281, and 283-285 above, and further in view of Peppard (5,134,266).

Williams fails to disclose the air compressor as a centrifugal air compressor. Peppard teaches that it is well known to use a rotary, i.e. centrifugal, air compressor in a deicing apparatus. See column 4, line 45. Motivation to combine is the mere substitution of one type of compressor for another compressor in order to perform the same function. To employ the teachings of Peppard on the deicing system of Williams and have a centrifugal compressor is considered to have been obvious to one having ordinary skill in the art.

(Note also in column 4, lines 31-41 that Peppard discloses compressing the air to the parameters claimed in the current invention.)


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6. In regard to Applicant's Remarks, it is noted that the claims as now amended do not copy the claims of 6,209,823 or 6,547,187 and are properly rejected over prior art. It is believed that the above rejections supply proper motivation to combine references and that all the patents as used form proper combinations under U.S.C. 103(a).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Woodrow Eldred whose telephone number is 571-272-6901. The examiner can normally be reached on Monday to Thursday, from 8:00 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


J. Woodrow Eldred
Primary Examiner
Art Unit 3641

JWE